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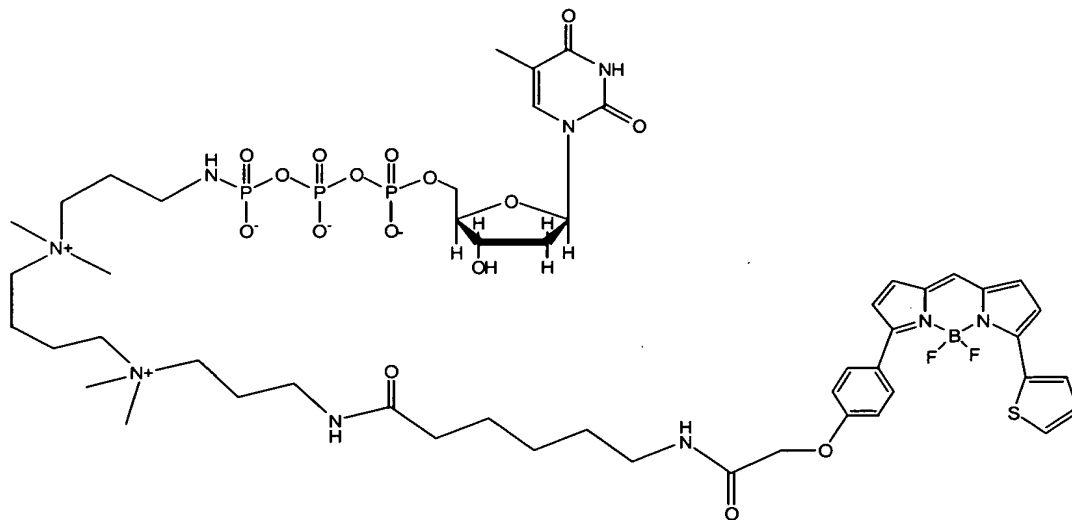
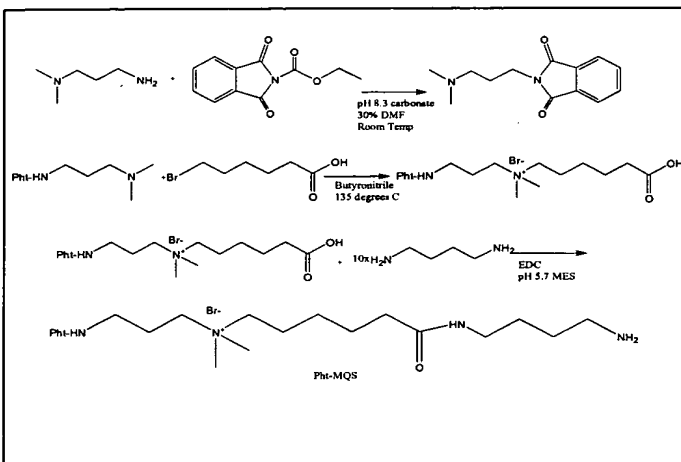
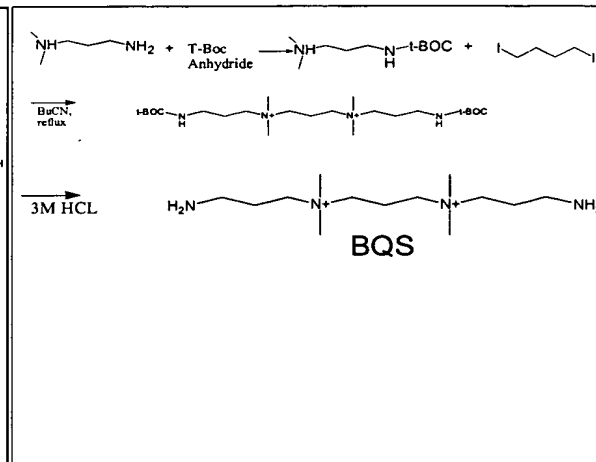


FIG. 4

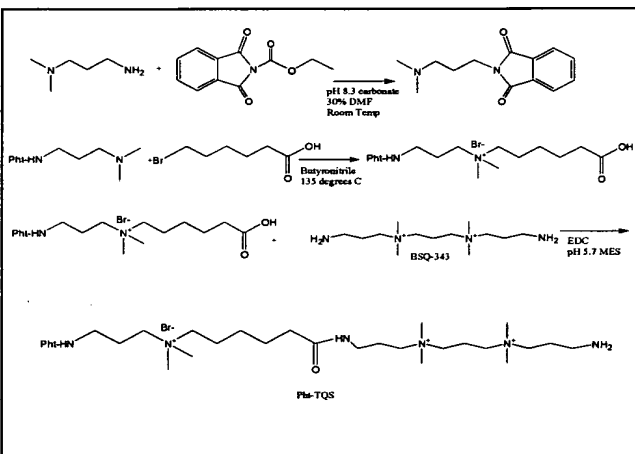
Scheme 1 - MQS component



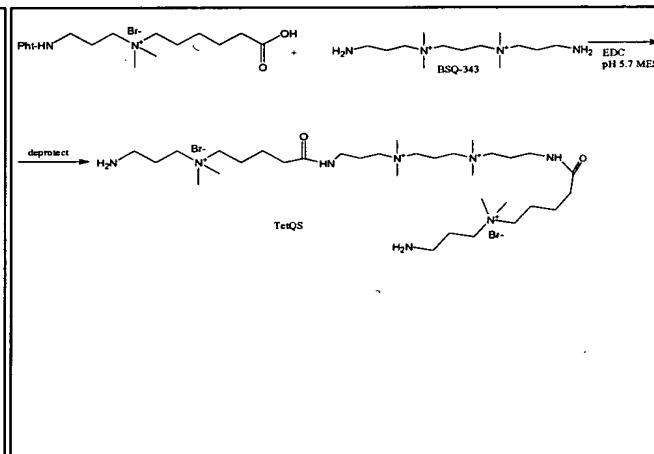
Scheme 2 - BQS linker



Scheme 3 - TQS linker



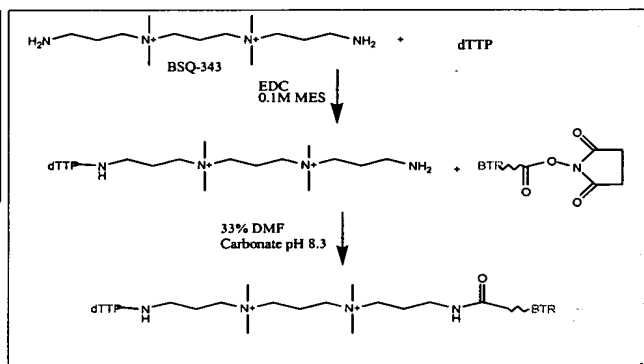
Scheme 4 - TetQS linker



Scheme 5 - Protect AA-dUTP

Use same chemistry as in Scheme 1, except the amine is the aminoallyl group of AA-dUTP. We have shown that deprotection can be accomplished in 1M NaOH, room temp, 2 hours, without degrading triphosphates.

Scheme 6



Coupling nucleotide, linker and dye (BTR is BodipyTR dye shown as the succinimide ester). We use this chemistry routinely to make  $\gamma$ -dNTPs (e.g. see cpd of Fig 13A).

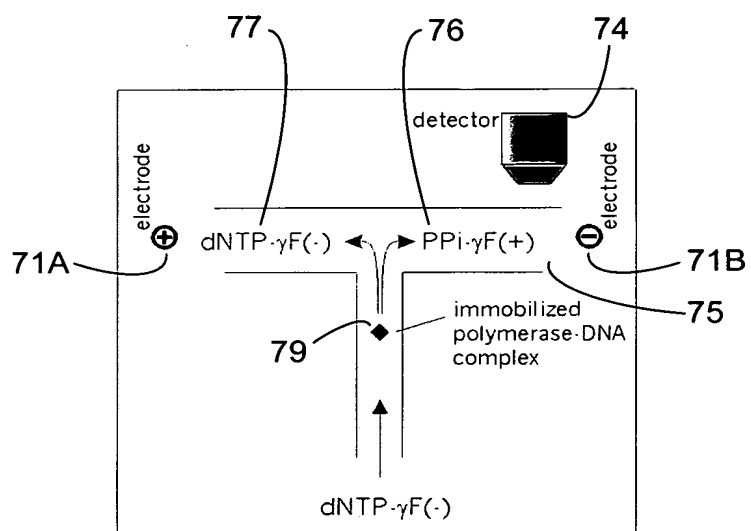
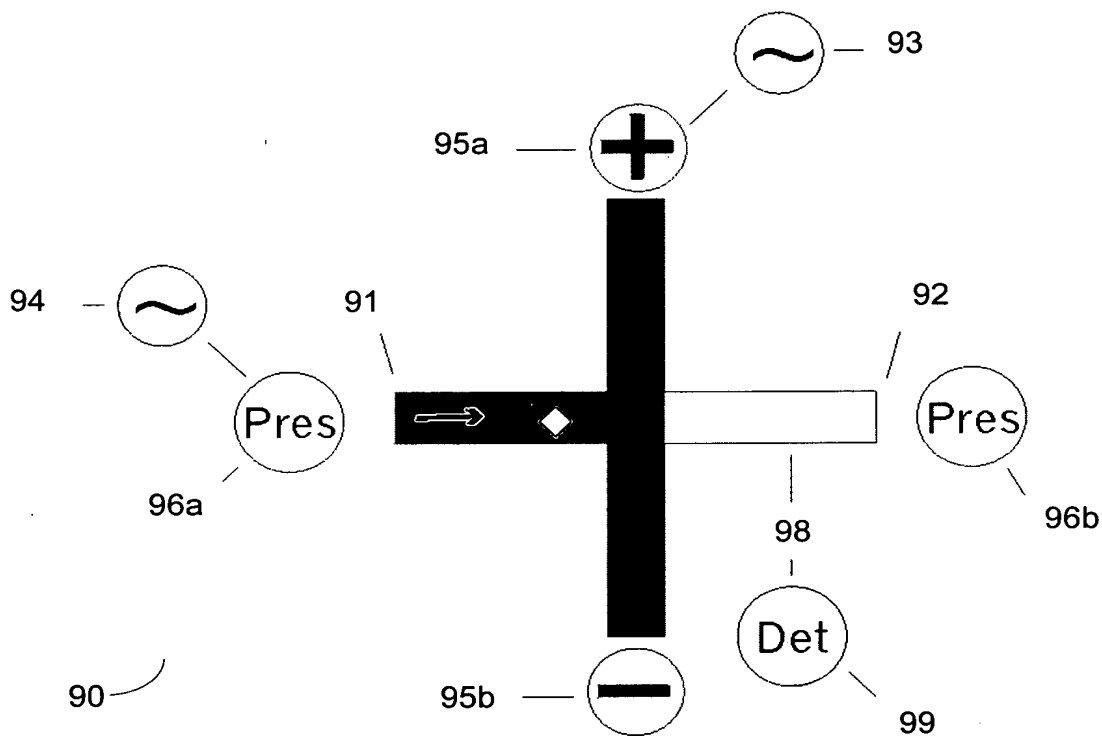


FIG. 7



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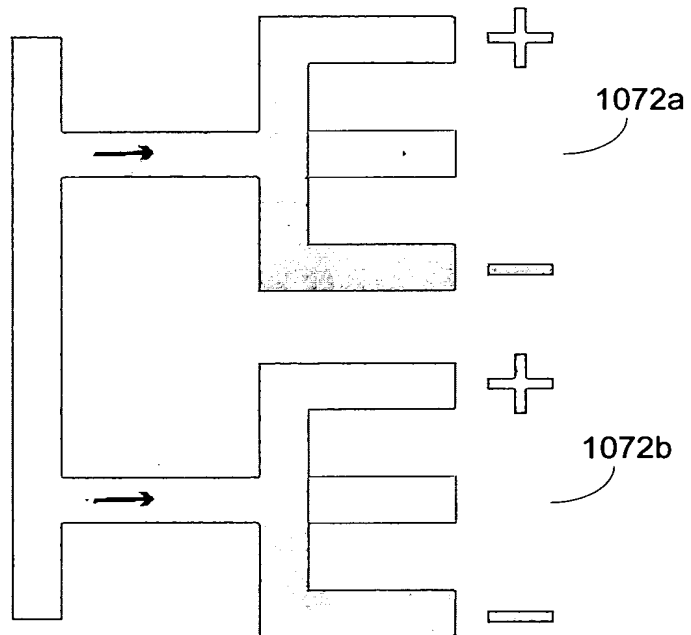


**FIG. 9**



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1000



**FIG. 10**